# PPI

## **Laser Systems**



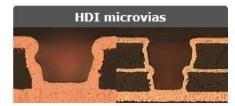
## **ProVia™ Series**

- Integrated laser drilling / cutting tool for high volume production
- High performance beam positioning for rapid, accurate panel processing
- CO<sub>2</sub>, UV, and hybrid (UV+CO<sub>2</sub>) processing
- Zoom telescope provides continuously variable spot sizes
- Optional automatic load/unload and slip sheet handling
- Optional beam homogenizer for flat-top CO<sub>2</sub> spots

## Designed for Next-Generation High Volume Via Drilling Requirements

- Hybrid laser process for broadest process capability
- Auto-calibration functions ensure repeatable quality
- Optional networking software with automatic file retrieval and job creation
- Optional panel automation with slipsheet handling





### Configured for all applications

- Blind and through-hole via drilling
- Cutting, routing and circuit excising
- Skiving / cavity formation
- Defect repair

## Advanced ProSys™ Control Software

- Automated drill file conversion and job generation
- Visual display of job features and job process status
- Advanced tool creation and assignment
- Built-in cutting, routing, skiving and marking functions

	101000																			
	File View Panel Seco	rty mip						_												
	Init / Setup	Process	SystemPara	ns Alorns		Vision / Panel Map														
	Balt / Sotap				2 2 5 5 H 1 2 7 8 0 4 7															
	Device	J int	0	ht and Setup Al																
	10Controller					IN BROSKED AT		0.12	1.12	2.12	3.12	4.12	6.12	6.12	7.12	8.12	9.12	10.12		
	LaverGalvoController				100		11													
	Galvo	•	•	•	68	Setup All		0,11	1,11	2,11	3,11	4,11	5,11	6,11	2,11	8,11	2,11	10,11		
Comment UV Only Spiral Tool					ø	IN AL		0.10				4,10								
First Process Tool Second Process Tool									19	2.9	3.9	4.9	59	6.9	7.9	8.9		10.9		
Tool1				1		ш.	0,5	1,8	2,8	3,8	4.8	5,5	6,8	7,8	8,8	9,5	10,8			
10011					- P		ш.	0.7	17	2,7	3.7	4.7	5.7	6,7	2.7	8,7	9.7	32.7		
KO Undo Ok				殿		Ш.	0.6	16	26	36	46	5.6	6.6	76	86	96	10.6			
					-sp															
🗉 Misc					Ho	Culturale	11	0.5	1.5	2,5	3.6	<b>66</b> E	5.5	6,5	2,5	0,5	9.5	10.5		
Comment					17*		11	0.4	1.4	24	3.4	4.4	5.4	6.4	2,4	8.4	9.4	12.4		
PulseRepetition	Rate 10	000			HO		11	0.3	13	23	3.3	43	5.3	63	73	8.3	93	10.3		
B Spiral					74															
DiameterAdjust	0	013			18	Collineate -		0,2	1,2	2,2	3,2	42	5,2	6,2	7,2	8,2	9,2	30,2		
EdgeArc	72				- 10			0.1	1.1	21	<b>(2</b> 1	4.1	6.1	6.1	2.1	8.1	9.1	10.1		
EdgeBite	0.	01							10	2.0	3.0	4.0	6.0	60	7.0		80	10.0		
InnerDiam	0							•												
SpiralBite	0.	0035						_	-	10				-	_	-	_			
SpiralSpace 0.004					_	Manual Controls XY Stage   Galvo Position														
											8 8		-							
Comment												X Y NAM								
																279.8083 314.0237 000.000 - 000.000 -				
												(77)				000	000			- 9
						ces here	_					Pasito					1			
Total Shots = 489 Hole Diam 0 113mm				rees in	A/Getagi/Col	Align	n Mode - None			(8) Step (mm)						₽ Y+0	7×X			
Hole blam 0. 1 Iomm					konst	Setings 🗧	Openal	Operate Made				and (rea	yh)	0.001						
	AUU	$( \cap$									_	_	-	_	_	_	_			
			3				_	_	_	_	Ide	_		X=-72	33743	Y+58	1253	Admini	wheter 10.29 Al	
			2																01	9.68 ×
- b			a –																	
		10	y –																	
	ENW.	S	r																	
, in the second s	Y	$\mathcal{D}$	·																	

## **PPI Systems Inc.**



## **Laser Drilling Systems**

The ProVia drillers provide the ultimate processing workstation for rigid boards, with high performance beam positioning for rapid point-to-point drilling and routing complex features. Choose a UV-only model, a CO<sub>2</sub>-only model, or the hybrid version with both laser sources. The CO<sub>2</sub> laser is appropriate for high speed drilling, cutting and skiving of dielectrics, while the UV laser is able to machine copper and provide higher process quality in many dielectrics. Whether your application is with glass- and aramid-reinforced epoxies or non-reinforced materials (e.g. resin-coated foil or polyimide), there is a ProVia model to meet your requirements.

#### **ProVia Specifications\***

#### System Hardware

- High peak power RF-excited CO<sub>2</sub> laser and diode-pumped solid state UV laser (7W to 20W models)
- Configured with high performance beam positioning for high speed via drilling, skiving, and cutting
- Three drilling modes: hybrid, conformal mask CO<sub>2</sub>, direct CO<sub>2</sub>
- Galvanometer scanning field: 50 x50 mm (approx. 2" x 2")
- Maximum panel size: 610mm x 660mm (24"x26")
- Vacuum platen for panel hold-down
- Integrated power meter for accurate process control •
- Precision linear motor XY stages with linear encoder feedback
- High performance motion and laser control
- CDRH Class 1 enclosure
- Large process viewing window
- Automated vision system for precision alignment, and scaling, offset, trapezoidal and rotation compensation
- Beam placement accuracy:  $15\mu m$  (3 sigma) for UV, and 20µm for CO<sub>2</sub>, over panel process area
- Ultrastable steel weldment frame with resonance dampening
- Compliant with CE and North American regulations
- Optional automatic panel loader / unloader, with slipsheet handling

#### Utilities

- Electrical: 208VAC, 36, 50A, 60Hz, or 400VAC, 36, 30A,50Hz
- Exhaust: ablation debris removal through 75mm diameter duct
- Dimensions (HxWxD): 2620 x 1626 x 2372 mm (103"x64"x93") central unit, service door open
- Weight: 3200 kg (7000 lbs) net; 3740 kg (8230 lbs) shipping, without autoloader
- Water: 8 l/min, or optional closed cycle water chiller

#### System Control

- Windows7® based user interface
- User friendly operator screens
- Compatible with industry standard file formats
- Rapid drill file conversion and path optimization utility
- Full system diagnostics, available remotely through internet port
- Password protection for access to configuration, set-up, and operating screens
- Real-time system monitoring for process integrity
- Optional networking software with automatic file retrieval and job creation
- Optional barcode reader software

#### **Process Parameters**

1013

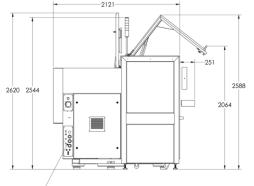
- High peak power laser sources to minimize heat affected zone and produce clean edges with little process residue
- Point-to-point moves, continuous line and area scanning, and circuit excising
- Programmable laser energy, pulse rate, pulse overlap, and scanning area
- Advanced tool and job editing functions
- Automatically process stepped vias and buried fiducials
- Via sizes and cut widths down to  $25\mu$ m using the UV beam and 50µm using the CO2 beam
- Zoom telescope provides continuously variable spot sizes for the CO<sub>2</sub> beam

1379

- Optional beam homogenizer for flat-top CO<sub>2</sub> spots
- Consult PPI for processing rates in your material.

4018

\*specifications are subject to revision



SERVICES ENTRY

## **PPI Systems Inc.**

1051 Baxter Rd. Ottawa, Ontario K2C 3P2 Canada

Shown complete with autoloader option.

Tel: (613) 236-8359 Fax: (613-248-4820 www.ppisystems.com

©2015 PPI Systems Inc. All rights reserved. PPI, Process Photonics, ProVia, APS and Active Pulse Shaping are trademarks of PPI Systems Inc. TOUCHSCREEN

FLIP-UP KEYBOARD

LOAD CART

1903